UCID-18769

U. S. ENERGY FLOW IN 1979

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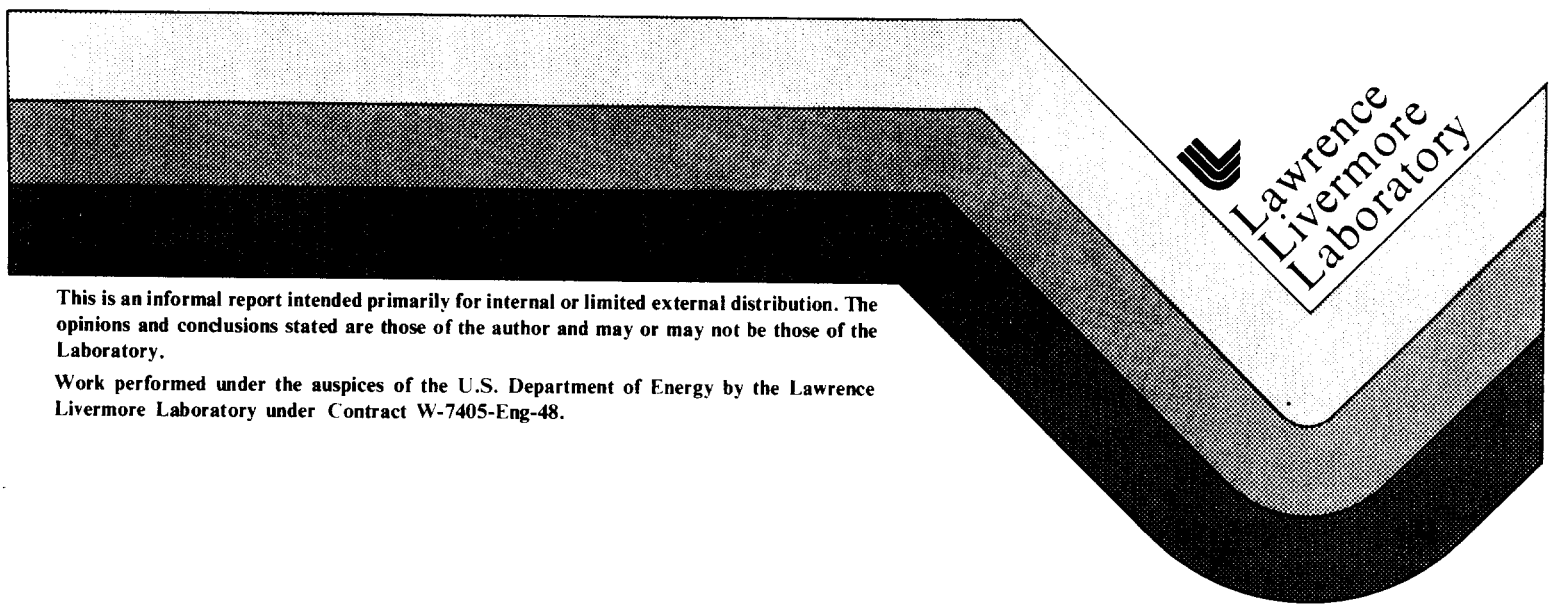
July 22, 1980



U. S. ENERGY FLOW IN 1979

ABSTRACT

An energy flow diagram for the U. S. for 1979 is presented. The most important feature is a 3.5% decrease in net energy imports.

U. S. ENERGY FLOW IN 1979

It is useful and interesting to chart the flow of energy in the United States. These charts provide a large amount of information in compact form.[1] On the charts, the width of any unit is proportional to the energy flowing in that unit.

Based on our methods and data supplied in the Department of Energy's "Monthly Energy Review," June 1980, DOE/EIA-0035/80(6), we have constructed the U. S. Energy Flow Chart for 1979 (Figure 1). In the Figure, all energy is expressed in "quads" (10^{15} Btu).

Some significant differences between 1978 and 1979 are:

- Total energy use increased 0.8%.
- Energy imports decreased to 16.7 quads, 3.5% below 1978.
- Natural gas remained more or less constant.
- Coal use increased 11.3%.
- Delivered nuclear power decreased by 7.7% due to the TMI incident and its consequences.
- A trend toward electrification continued with distributed electrical energy increasing by 1.9%.

Not shown in the chart is one encouraging trend. While both energy use and gross national product increased, the energy per GNP ratio declined, continuing a trend started in 1971. The lower this ratio is, the more efficiently energy is used in the economy. This ratio now stands at 55.0 thousand Btu per 1972 dollar, down 1.6% from 1978.

Some approximate conversion factors are given in the appendix.

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1) The first charts prepared by these methods were those of A. L. Austin, LLL Report UCID-16022 (1972).

APPENDIX: CONVERSION FACTORS

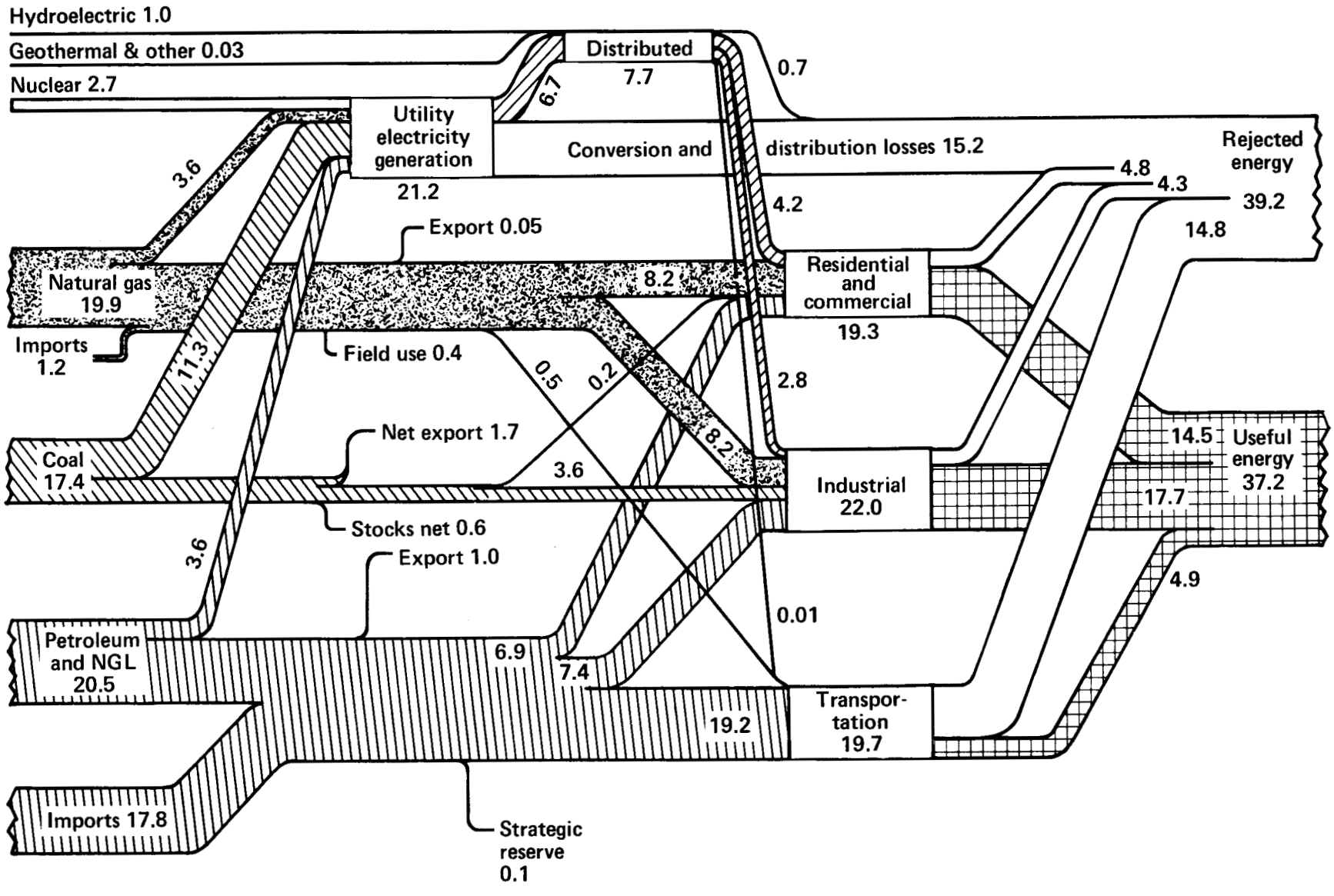
The energy content of fuels varies. Some approximate, rounded conversion factors, useful for estimation, are given below.

Fuel	Energy Content (Btu)
Short ton of coal	22,500,000
Barrel (42 gallons) of crude oil	5,800,000
Cubic foot of natural gas	1,000
Kilowatt hour of electricity	3,400
Fossil fuel to produce one kilowatt hour of electricity	10,000

More detailed conversion factors are given in the Department of Energy's "Monthly Energy Review."

U.S. ENERGY FLOW – 1979

(NET PRIMARY RESOURCE CONSUMPTION 77.8 QUADS)



Printed in the United States of America
Available from
National Technical Information Service
U.S. Department of Commerce
5285 Port Royal Road
Springfield, VA 22161
Price: Printed Copy $;Microfiche $3.50

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